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Recent trends in the size and the distribution of inherited wealth in the UK

Article (Accepted version) (Refereed)

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December 2013

Abstract

In this paper we use HMRC estate statistics and micro-data from four UK household surveys to examine changes in the size, the composition and the distribution of inherited wealth in the UK over the period 1985-2010. Our findings indicate that the period under examination is characterised by a substantial increase in the flow of inheritance. This increase, which was particularly marked in the early 2000s, was mainly driven by the rise in house prices and to a lesser extent by the increase in the proportion of inheritances which included housing assets. The distribution of inheritance amongst recipients became more unequal over this period. However, the inequality-increasing effect from the greater dispersion in the distribution of inheritance was counterbalanced by the increase in the percentage of the population who received an inheritance, resulting in a small decrease in the inequality of inheritance for the population overall. Analysis of the distribution of inheritance by socio-economic status suggests a positive association between inheritance and socio-economic status with some suggestive evidence that this association might have strengthened over time. Overall, however, the value of inheritance for most people is rather small and the differences across groups rather moderate.

Keywords: Inheritance, wealth, intergenerational transfers, inequality
JEL numbers: D31

Editorial Note and Acknowledgements

Data for the British Household Panel Survey (BHPS), Attitudes to Inheritances Survey (AIS), General Household Survey (GHS), and Wealth and Assets Survey (WAS) were made available by the UK Data Archive. The GHS and WAS are Crown copyright and are reproduced with the permission of the Controller of HMSO and the Queen's Printer for Scotland. The BHPS is copyright Institute of for Social and Economic Research; the AIS is copyright S. MacKay, K. Rowlingson and the Joseph Rowntree Foundation. Financial support from the Nuffield Foundation is gratefully acknowledged. The author is also grateful to Jon Aldous from HMRC for providing estates statistics. Also the author would like to thank Tania Burchardt, Francesca Bastagli, John Hills, Frank Cowell, Howard Glennerster, Abigail McKnight, Tom Sefton as well as members of Nuffield Advisory Committee (including Athena Bakalexi, James Banks, Chris Curry, Joanna Littlechild, Karen Rowlingson, Holly Sutherland, Steve Wilcox) and two anonymous referees for very useful comments and suggestions. All errors and ambiguities are the author's responsibility.

1. Introduction

Over the last years there have been widespread debates in the UK and in other countries on the extent to which inheritance as a source of wealth accumulation is growing in importance. Many scholars have argued that the increase in personal wealth that was documented in many industrialised countries since the early 1980s, have led (and will increasingly lead) to a corresponding increase in inheritances. Others have argued that technological change and the deregulation of labour and financial markets have given a boost to self-made wealth and reduced the importance of inheritance. Recent evidence from the US appears to support this argument suggesting that the importance of inheritance is either falling (Edlund or Kopczuk, 2009) or constant (Wolff and Gittleman, 2011). On the other hand, Piketty (2011) documented a sharp rise in the annual flow of inheritance in France during the last 40-50 years (which reached at a level of 15 per cent of national income in 2008 from less than 5 per cent in 1950), arguing that in low growth economies with substantially higher rate of return to capital, inheritance plays a key role in wealth accumulation dynamics.

In the UK the ratio of personal wealth to national income increased from less than 3 to 1 in the late 1970s to more than 5 to 1 in 2010. The sharp rise in personal wealth which resulted largely – although not exclusively – from the rise in housing wealth (Atkinson 2013) have triggered debates about the potential increase in the importance of inheritance. Many scholars have conjectured that the rise in housing wealth (which resulted from the growth in owner occupation since the post war and the house price inflation of late 1980s and 2000s) combined with the slow rate of wealth decumulation (even at very old ages) will gradually lead to an increase in the size of inheritance as more recent generations of older people die and bequeath their wealth.

Although previous analyses have shown that until the late 1980s there was no particular increase in the number of inheritances which include housing assets (Hamnett, 1992)

projections undertaken during the early 1990s suggested that the number of inheritances will double by 2025 as the post war generation of mass home-owners gradually die and bequeath their property (Hamnett et al., 1991). However, more recent studies revising mortality assumptions downwards showed that the increase in housing inheritance will be much more moderate than initially anticipated (Holmans, 2008). In contrast to the trends concerning the *number* of housing inheritances, studies analysing the trends in the value of housing inheritances showed that during the period 1969-1988 the *value* of inheritance which included housing assets has grown substantially as a result of house price inflation (Hamnett, 1992). Holmans (2008) projected further increases in the value of housing inheritance by 2025 but stressed again the process will be slower than it has been initially anticipated.

Given these prospects, an issue which has been debated at length in the UK was the effect of housing inheritance on wealth inequality. Some researchers have argued that housing inheritance will have equalizing effects on the distribution of wealth stressing the fact that housing wealth is more widespread than other forms of wealth while others argued that housing inheritance will contribute to greater wealth inequality, pointing to the concentration of wealth in the housing market (Hamnett, 1991). Holmans and Frosztega (1994) analyzing a specially commissioned UK survey, show that 80 per cent of inheritors to be aged over 30 but argue that, although the main beneficiaries of past house price inflation are people who are already home owners and thus have substantial assets of their own, the overall impact of these patterns on the overall distribution of wealth will be relatively modest.

In this paper we use published HMRC estate statistics and survey data from four major household surveys in the UK (including the British Household Panel Survey, the Wealth and Assets Survey, the Attitudes to Inheritance Survey and the General Household Survey) to document and analyse changes in the overall scale and the distribution of inheritance during the period 1984-2010. In a recent paper Atkinson (2013) examines the long run evolution of

the size of inheritance in the UK using estate statistics from 1896 to date. This paper focuses on the last 25 years and therefore provides a shorter perspective of the changes. By focusing on a more recent period however, we are able to complement the analysis of estates statistics with extensive survey evidence and to explore both the overall scale and the distribution of inheritance and its changes over time. Throughout the paper our focus will be on intergenerational inheritance, since these are most directly relevant to debates about the intergenerational transmission of wealth inequality.

The remainder of the paper is structured as follows. Section 2 begins by providing a brief review of the literature on the quantitative importance and the distributional impact of inheritance. Section 3 describes the various data sources used in our analysis. Section 4 describes the results concerning the trends in the rate and value of inheritances while Section 5 provides estimates of the degree of inequality of inheritances and the extent to which this has changed over time. Section 6, then moves to explore the correlation of inheritance with various measures of socio-economic status and to determine how this has changed over time. The final section concludes with a brief discussion of the main findings of the paper.

2. Brief literature review on the size of inheritance and its impact on wealth inequality

Historically inheritance was generally believed to be a key part of the perpetuation of wealth and wealth inequality. But as the importance of 'old money' declined after both World Wars and as middle class wealth spread – particularly through home ownership – the role of inheritances has become more ambiguous. Reflecting differences in the definition and the measurement of inherited wealth[1] but also indicating the difficulty in capturing inherited

[1] A major issue in estimating the importance of inherited wealth is how one treats the appreciation of inheritance i.e. whether the returns to inheritances should be included in inherited wealth or if it should be counted as part of lifecycle wealth. Davies and Shorrocks (2000) provide a very detailed discussion on this issue and an excellent review of the literature on the importance of inheritance on wealth accumulation.

wealth from most survey data, empirical studies differ substantially both in the relative importance they assign to inheritance as a source of wealth accumulation and in whether it has equalising or disequalising effect on the distribution of wealth. Based on survey data some US studies suggest that inherited wealth accounts for as little as 13 per cent of total net worth (Smith, 1999) while others suggest much higher values. For example, Wolff (2002) provides estimates of the magnitude of 19-35 per cent (depending on the degree of capitalization of inherited wealth) while Gale and Scholtz, (1994) suggest that parental *inter vivos* transfers account for at least of 20 per cent of aggregate net worth, and accumulated bequests – monetary transfers received after the death of parents – amount to 30 per cent of aggregate net worth in the US economy. Estimates for Sweden (Klevmarken, 2004) put the size of transfer wealth (inheritance and gifts) somewhere in the range of 10-19.5 per cent (depending on capitalization assumptions). For the UK the Royal Commission on the Distribution of Income and Wealth estimated that in the UK inherited wealth accounted for about 20 per cent of total wealth in 1973 (as estimated by the estate duty method) with the estimate rising to 25 per cent if gifts made more than 7 years before death and exempt property are added (Royal Commission on the Distribution of Income and Wealth, 1977).

Kotlikoff and Summers (1981, 1988), estimating transfer wealth by subtracting lifecycle wealth (defined as the accumulated net surplus of earnings over consumption) from net worth, estimate that transfer wealth accounts for at least 80 per cent of total US net worth. Modigliani (1988a, 1988b) adjusting Kotlikoff and Summers' calculation for a number of factors estimates, by contrast, that transfer wealth accounts for 20 per cent or less of total net worth. The large discrepancy in the two estimates arises from a difference in the definition of transfers used by the authors as well as from the treatment of income from inheritance to wealth accumulation. In a thorough review of the literature Davies and Shorrocks (2000)

conclude that a reasonable rough estimate is that inheritance contributes some 35-45 per cent to aggregate wealth.

In addition to the controversy over the size of inherited wealth, theoretical and empirical studies vary with respect to their conclusions on whether inheritance makes the distribution of wealth more or less equal. As stressed by Gokhale et al. (2001) the reason for the controversy over the impact of inheritance on wealth inequality is the complexity of inheritance-bequest process and the fact that a number of factors may intervene into this process (including earnings inequality, the intergenerational transmission of earnings inequality, the number and spacing of children, assortative mating etc.)[2]. Depending on the assumptions used, different studies reach to different conclusions. Some suggest that inheritance can be equalising, reflecting the role of imperfect correlation of spousal backgrounds (Laitner, 1979a and b), the tendency of parents to either distribute their estates equally among children (Stiglitz, 1969) or to leave more to less well-off children (Becker and Tomes, 1979; Tomes 1981). Others however, point to ways by which inheritances can have disequalising effects with respect to the distribution of wealth (Davies, 1982; Gokhale, 2001; De Nardi, 2004).

In contrast to the controversy regarding the impact of inheritance on the distribution of wealth, studies that examine intergenerational wealth mobility consistently find that the degree of intergenerational wealth correlation is very high and that inheritance plays a very important role in shaping the top end of the wealth distribution (Wedgwood 1928, 1929; Harbury, 1962; Harbury and McMahon, 1973; and Harbury and Hitchens 1976, 1979).[3] While this work is very interesting, there are two reasons why it may fall short in establishing the direct link between inheritance and wealth inequality. First, the data used by these studies relate to estates left by the fathers and not to inheritance received by the sons. Secondly these

[2] For a fuller discussion see Gokhale et al. (2001).

[3] Note however that Harbury and Hitchens (1979) found some evidence of a decline in the relative importance of inherited wealth among top wealth holders over time.

studies fail to establish that the relationship between inheritance and intergenerational wealth correlation is causal (since there may be many reasons why parents' and sons' wealth may be correlated other than inheritance). More recently, Clark and Cummins (2012) linking seven generations in England through a rare surnames approach, find mobility rates for a range of social status measures including wealth, that are much lower than conventionally estimated and considerable persistence in status even after 200 years.

3. Data and methodological issues

The data for this paper are drawn from five sources. The baseline data come from the HMRC (formerly Inland Revenue) published statistics on estates passing on death. These statistics are based on Inheritance Tax records which are gathered by HMRC in the course of administering Inheritance Tax (introduced in 1986) and its predecessor Capital Transfer Tax. The principal source of these data is applications for grant of representations (grant for confirmation in Scotland) which give the deceased's personal representatives legal authority to deal with the estate.[4] In the UK tax system, grant representation is required for most estates irrespective of whether these are liable to tax. The only estates that are excluded from this requirement are low value estates – generally worth less than £5,000 – or estates which are held in joint names and which pass to a surviving spouse/civil partner (HMRC, 2011a). In any given year the estates covered by the Inheritance Tax statistics represent about 50 per cent of the total number of deaths.[5] The excluded estates are small estates consisting of only cash and personal effects or where the total sum is less than £5,000 as well as jointly owned property

[4] A grant representation is a legal document issued by courts to appoint an executor so that an estate can be distributed. This is likely to be a grant of probate if there is a will or letters of administration if there is no will.

[5] Own calculations based on statistics on the total number of UK deaths and estates notified for probate (2002-3 to 2006-7) Table 12.3, available from the HMRC website at http://www.hmrc.gov.uk/stats/inheritance_tax/table12-3-iht-sept09.pdf.

passing on death to a surviving spouse/civil partner. Also excluded from the estate statistics are most properties and assets held in discretionary trusts.

Given the focus of the paper it is important to determine the value of the excluded estates and more crucially to understand whether this has changed over time. In any given year, small estates and excluded discretionary trusts account for a rather small share of the total transferred wealth.[6] Therefore any bias arising from these exclusions and exemptions is likely to be relatively small. A more serious bias, however, arises from the undervaluation of assets in the estates statistics.[7] In adjusting the estate statistics for undervaluation bias Atkinson (2013), for instance, assumes an adjustment of 15 per cent for the years between 1971 and 1995 and 25 per cent for the years thereafter. Although we do not undertake any adjustments for the undervaluation bias we need to keep in mind that the estate statistics will underestimate the annual flow of inheritance and that the degree of the bias may be higher for more recent years that earlier ones.

Since the focus of the paper is mainly on intergenerational transfers, the exclusion of property held jointly with a surviving spouse is not an issue of immediate concern. In considering the results based on these statistics, however, we need to bear in mind that these include all reported estates including many where all or part passes to surviving spouses (i.e. property that is not held jointly and therefore reported to the estates statistics). Since our main interest in this paper is on intergenerational inheritance, it seems important to produce estimates which exclude such inter-spousal transfers. In the absence of direct information on the value of inter-spousal inheritances we generate a crude estimate for these based on the value of estates of not married people (widowed, singles or divorced) plus a fraction of the

6 In adjusting the estate statistics Atkinson (2013) uses a 1 per cent adjustment factor for the exclusion of small estates and a further 1 per cent adjustment for the exclusion of discretionary trusts. The HMRC uses similar adjustments in the reconciliation of the estimates of wealth derived using the estate multiplier method with the figures given in the national balance sheets.

7 The undervaluation of assets can either reflect the undervaluation of certain classes of assets for tax purposes or time lags between death and the appearance of assets in the statistics.

value of estates of married people. In our calculations, we rely on information of a small scale study of estates arising from deaths in 2000/01 (reported on HMRC website), which indicated that around 76 per cent of the value of bequests of married people was left to a surviving spouse, assuming that 24 per cent of the estates of married people went to persons other than surviving spouses.[8] [9]

In addition to HMRC's published statistics on estates passing on death, we also draw evidence from four major UK micro surveys. The first is the British Household Panel Survey, a nationally representative panel survey of about 5,500 private households (containing more than 10,000 individuals) which has been conducted annually from 1991 until 2009 (with a total of 18 waves) collecting information on a range of issues. Information on inheritance receipts in BHPS was collected continuously from wave 7 onwards as part of more general questions of windfall payments received by the respondent in last 12 months prior to the survey. In this paper we use data for inheritances recorded in all waves from wave 7 to wave 16 – which broadly cover inheritances received during the period 1996-2005.[10]

The second survey that we use is the Attitudes to Inheritance Survey (AIS), a specialised nationally representative survey of more than 2,000 individuals which was conducted in 2004 by researchers from Bristol and Bath universities in order to study the importance of inheritances and inheritance intentions. The data collection method for inheritances in AIS was based on recall. Respondents were asked to indicate whether they had received any

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8 Results of this study are reported in Table 12.9 on the HMRC website: http://webarchive.nationalarchives.gov.uk/20120609144602/http://hmrc.gov.uk/stats/inheritance_tax/table12_9.pdf. A concern with the adjustment of the estates of married people may be that the distribution of beneficiaries may have changed over time. However, as noted by Atkinson (2013), a small scale study carried out in 1981 produced results very similar to those of the 2000/01 study.

9 The study reported in Table 12.9 on HMRC website also indicates that around 8 per cent of the value of estates was left to charities etc. Because the "charities etc." category is a very heterogeneous category (which also includes unknown beneficiaries) we decided not to make any adjustments for this category. In considering the HMRC estimates, however, we have to keep in mind that these would over-state the intergenerational inheritances.

10 The BHPS interviews take place in the Autumn of each year, mainly in September and October, so strictly speaking inheritances reported in 1997, for instance, relate to a period generally including the last quarter of 1996 and the first three quarters of 1997. For simplicity, we refer here to them as being within the year when the reporting period started.

inheritances, gifts or other types of wealth transfers in the past and to specify the particular type, value and the date at which each of the three most recent transfers was received. Since the value of inheritance in AIS is recorded in bands to obtain a continuous value for each inheritance, each individual is assigned the mid-point of their reported band.[11] Given that the bands in AIS are relatively wide they cannot provide a precise estimate of the value of inheritance. They can, however, provide an indication of the direction of any observed changes. Furthermore, because the inheritance data was based on recall it is likely to have under-reporting problems and its estimates are likely to be biased downwards, particularly for more distant years.

The third dataset that we use is the 1995/96 General Household Survey (GHS). This specific cross-section of the GHS contained a special supplementary module which asked respondents to indicate whether they had received any inheritance of more than £1,000 (in nominal terms) in the 10 years prior to the survey (but excluding any inter-spousal inheritance). If respondents responded positively to this question they were then asked about the value, the type and the year of receipt of each reported inheritance. The problem with the nominal £1,000 cut-off in GHS is that it excludes an increasingly large proportion of smaller inheritance in earlier years (due to price inflation). In order to account for this bias and to ensure that we exclude inheritance of similar real value, in each year we exclude inheritances below £2,000 at 2005 prices (which is the real value equivalent of £1,000 in 1985 at 2005 prices). Similarly to AIS, the recall method of data collection in GHS is likely to have under-reporting problems. But since information on inheritance in GHS has a short retrospective period (last 10 years) it should be subject to less recall error bias than AIS.

Finally, we supplement our analysis with data from the Wealth and Asset Survey (WAS), a longitudinal survey with a special focus in collecting rich information on household assets

[11] We set the value of the open ended top category at £300,000 which was the mean value of inherited wealth above the value of £200,000 in BHPS.

and debts. The main advantage of WAS relative to the other survey data is that, as a specialised wealth survey, it has a much better coverage of the upper tail of the wealth distribution where inheritances are more likely to be more important.[12] At the time of writing this paper, data from the first two waves of the survey were available for analysis. The collection period of the first wave was from July 2006 to June 2008 while that of the second wave was from July 2008 to June 2010. In the first wave, respondents were asked to report any inheritance of more than £1,000 (in nominal terms) that they had received in the *five* years prior the survey along with the value, the type and the donor of each reported inheritance. In the second wave, respondents were asked similar questions for inheritances received in the last *two* years prior the survey. Therefore the first wave of the survey covers inheritance (over £1,000) received in five year periods between 2001-2008 while the second wave those received in two year periods between 2006 and 2010. Unfortunately due to a survey error the value, the type and the donor of inheritances were not recorded in wave one.

In analysing all the surveys except the WAS (which did not record the year of inheritance receipt) we express inheritances in constant 2005 prices using the Retail Price Index (on the basis of the value and the date of receipt of each inheritance). Furthermore, in all surveys we exclude inter-spousal inheritances (given the focus of the paper and the constraints of the GHS data).[13]

4. Recent trends in inheritance, 1985-2010

In this section we examine trends in the flow of inheritances in each year during the period 1985-2010 and we assess the role of housing inheritance within any observed trend. In

[12] The sampling frame of WAS is designed to oversample high wealth addresses (for more details about the survey see ONS, 2012).

[13] Inter-spousal inheritances are explicitly excluded in GHS. In AIS we exclude inter-spousal inheritance by exploiting survey information about the donor of inheritance while in BHPS by excluding inheritance received by persons who became widows/ers between waves.

Table 1 and Figure 1 we present HMRC's statistics on the number and the total value of estates passed on death for the period 1984/85-2009/10. Statistics are presented for all estates as well as by whether the estate includes housing assets or financial assets. One thing to note from this table is that although the number of estates remained fairly stable throughout the period 1984/85-2009/10, from the early 2000s onwards there was a significant increase in the proportion of estates which included housing assets (from 56 per cent in 1984/85 to 65 per cent in 2005/06 and 67 per cent in 2009/10). This increase is likely to reflect the fact that the first generation of mass home-ownership are gradually reaching the end of their lifetime. It contrasts to the earlier trend documented by Hamnett (1992) who found that the number of housing estates had not changed significantly during the period 1968/69-1987/88. During the same period the value of estates rose in real terms from £22.2 billion in 1984/85 to £55.4 billion in 2009/10. This took the flow of inheritance from being the equivalent of 3.1 per cent of GDP in 1984/85 to around 4.5 per cent in 2009/10. An equivalent comparison with personal wealth shows that the ratio of inheritance to personal wealth remained fairly stable over this period (at a level of around 1 per cent). The explanation is that over the period we consider, the rate of growth in inheritance was more or less in line with the rate of growth in personal wealth (results available from the author upon request).

Examination of the trends by whether the estates include financial and/or housing assets reveals a substantial increase in the value of estates which included financial assets and an even sharper increase in the value of estates which included housing assets (which reached to £29 billion in 2009/10 from around £10 billion in 1984/85). Given that the overall number of estates remained fairly stable over this period, the average value of estates changed in line with their total value. As can be seen comparing Figures 1.c and 1.d, the changes in the mean value of estates tracked closely the growth in the mean value of housing assets, decreasing during the housing market downturn of the early 1990s while increasing steadily after the

recovery of the late 1990s (with a much sharper growth during the house price boom period of the early 2000s) and then falling slightly during the recent economic downturn. Over the whole period, the rate of growth of housing assets within estates was very similar to that of house prices, suggesting that the main driver of their rise was the growth in house prices. Overall, however, although house price growth and the resulting increase in housing assets was the main contributor of the rise in inheritance it was not the only factor at work: financial assets also increased considerably.

The HMRC statistics described above refer to all reported estates including many where all or part passes to surviving spouses. Since our main interest in this paper is on intergenerational inheritance Table 2 reports estimates for the value of estates which exclude inter-spousal transfers (using the methodology described in the data section). As with all estates, the statistics in this table suggest that the value of non-spousal inheritances increased substantially during the period under examination, reaching to £39 billion in 2009/10 (or around 3 per cent of GDP) from around £18 billion in 1986/87 (or around 2.3 per cent of GDP).

Given the trends described above, we now turn to examine the extent to which the increase in the value of estates was translated into an equivalent increase in the value of inheritance and to explore whether there has been any change in the percentage of inheritors over time. For this analysis we rely on the four household surveys described in the data section (i.e. AIS, GHS, BHPS and WAS). As we discussed earlier, each of these datasets has its own strengths and limitations (which means that they capture the flow of inheritance in a varying degree) but together they can provide a fairly robust picture about the trends in inheritances.

Based on BHPS we can directly derive estimates on the rate and the value of inheritance that were received annually from 1996 to 2005 while based on GHS and AIS we can infer the

rate and the value of inheritances received in earlier years by exploiting information of the year of receipt of each reported inheritance. The analysis of WAS provides a check on the recent picture derived from BHPS.

As stressed in the data section, because the data collection method in AIS and GHS is based on recall, the estimates of inheritance from these two surveys may be hampered by recall error and under-reporting bias. Furthermore, given the retrospective nature of inheritance data in these two surveys a number of inheritors in earlier years may have died by the time of the survey. The estimated number of inheritances will therefore be an underestimate of the true number of inheritances received in earlier years. To account for the latter source of bias we weight past inheritances by the inverse of the (age-sex specific) survival probability from the year of inheritance receipt to the survey year. In order to minimise measurement error due to the relatively small number of inheritors in each particular year, we aggregated inheritances into five periods: (i) 1986-1990; (ii) 1991-1995; (iii) 1996-2000 (iv) 2001-2005 and (v) 2006-2010.[14]

For each of these periods we provide statistics for the average annual rate of inheritance – calculated by dividing the percentage of inheritors in each time period by the number of years it spans – and the average size of inheritance. Three set of results are reported for each. The first (which is presented in the right panel of Table 3) refers to all inheritances irrespective of their value and is based on AIS and BHPS. The second refers to inheritance valued more than £1,000 (in nominal terms) and is based on the second wave of the WAS. The third (presented in the left panel of Table 3) refers to larger inheritances (i.e. those valued more than £2,000 in 2005 prices) and is based on data from GHS and for comparability BHPS.

Consistently with the estates statistics, the results in Table 3 suggest that the percentage of people who received an inheritance in each year during the period 1995-2005 remained

[14] For BHPS, the figures for 1996-2000 and 2001-2005 are for five years starting in last quarter of 1996 and of 2001, respectively.

fairly stable (ranging between 2.2 per cent in AIS and 2.4-2.5 per cent in BHPS). The small increase detected in AIS between 1991-1995 and 1995-2004 (from 1.9 to 2.2 per cent) is rather too small to be conclusive, especially considering the possibility that earlier AIS estimates might be hampered by recall error bias. Contrasting to that, the GHS statistics imply an increase in the percentage of people who received an inheritance above the £2,000 real threshold from an average of 0.8 in the period 1986-1990 to 1.2 per cent in the period 1991-1995, while throughout the following period (1996-2005) the BHPS shows that 1.4 per cent of people received an inheritance above the £2,000 threshold suggesting a further increase. Given that the number of estates and the percentage of all inheritances remained fairly stable during this period, this increase suggests a rise in the number of inheritances above the £2,000 real threshold.

An important consideration for this trend however, is whether (or better to what extent) the implied increase is contaminated by recall error bias intrinsic to the retrospective nature of the inheritance data in the GHS. Although it is difficult to determine the extent of the bias, the fact that Holmans and Frosztega (1994) produced estimates for the number of inheritances above £1,000 (in real 1980s terms) for the period 1986-1990 which are of the same order as the GHS estimates, suggests that at least to a certain extent the difference between BHPS and GHS reflects a genuine increase in the number of larger inheritances.[15] The WAS estimates for the subsequent five-year period (2006-2010) imply an average rate of inheritance receipt of around 1.8 per cent, which is at the mid-point of the two BHPS estimates that include and exclude inheritances over the £2,000 threshold (in 2005 prices). Taken together the evidence suggests that the rate of inheritance receipt remained fairly stable from 1995 onwards, but that

[15] Although Holmans and Frosztega's (1994) analysis is also based on retrospective data – of inheritance over £1,000 received in ten year period 1980-1990 as reported by respondents in 1990 – the period 1985-1990 is closer to the date of their data collection and therefore less susceptible to recall error bias. According to Holmans and Frostzega the period 1986-1990 the number of inheritances of more £1,000 (in 1980s prices) ranged between 257,000 and 409,000 which correspond to an annual inheritance rate of 0.6 and 0.9 per cent respectively.

between 1985-1995 and 1995-2005 there was a rather substantial increase in the number of larger inheritances.

An interesting observation that can be made comparing the two BHPS estimates (i.e. those based on all inheritances and those above the £2,000 threshold) is that around 40-45 per cent of all inheritances are worth less than £2,000 in constant 2005 prices. Looking more closely at the statistics describing the trends in the value of inheritance, one can see that within each survey the trends in the value of inheritances match closely the patterns which emerged based on HMRC statistics: they suggest a decrease in the average real value of inheritance during the early 1990s and a growth from 1995 onwards. Although AIS and BHPS imply similar patterns for comparable time periods, within each period, AIS estimates for average values are considerably larger than the BHPS ones. In part, this difference may reflect a recall error bias and a resulting tendency of AIS respondents to remember larger bequests[16] but it could also be that using the mid-point from banded inheritance responses may bias inheritance estimates in AIS upwards (if inheritances are bunched toward the bottom of each band). As one would expect, given the better coverage by WAS of the upper tail of the wealth distribution, the WAS estimates are higher than the BHPS ones.

Aggregating the GHS and BHPS statistics at national level we find that the total value of inherited wealth increased from an average of around £12 billion per year in 1986-1990 to an average of £25 billion per year in 2001-2005. By comparison, our estimates of non-spousal inheritances based on HMRC statistics suggested that non-spousal inheritances increased from an annual average of around £20 billion in the period 1986-1990 to £38 billion in 2001-2005 (or by about 90 per cent). From these statistics one can also infer that GHS and BHPS capture 60 and 66 per cent of non-spousal transfers respectively. This is rather low but can partly be explained by the fact that both surveys exclude smaller inheritances and HMRC

[16] Note that while the recall error would bias the overall inheritance estimates downwards it would tend to bias upwards the average value of inheritance among inheritors since respondents would tend to remember larger inheritances and to forget smaller ones.

estimates include inheritance tax (as we discuss below, if we include smaller inheritances and we exclude inheritance from the HMRC estimates the BHPS estimates capture 85 per cent of the HMRC estimates). Furthermore, given that the degree to which the GHS and BHPS capture HMRC estimates is pretty similar (especially considering that the undervaluation of assets was smaller in earlier HMRC estimates), one can argue that recall error bias in GHS may not be too severe.

All in all, the evidence presented so far suggests that in the period 1984/85-2009/10 there was a marked increase in the value of inherited wealth. The main driver of this increase was the rise in the value of housing inheritances which itself was largely driven by the increase in house prices and to a lesser extent by the growth in the percentage of inheritances which included housing assets. The evidence also suggests that while the overall number of inheritances has not changed significantly during the period under examination, after the early 1990s there was an increase in the number of larger inheritances (although the potential recall error bias in GHS precludes any safe conclusions on the extent of this change).

In aggregate the BHPS figures imply an average annual flow of non-spousal transfers of about £30.6 billion for each year during the period 2001-2005. For the same period the HMRC statistics presented in Table 2 imply an average annual flow of non-spousal inheritance of about £38 billion. Excluding expenses and inheritance tax this figure would fall to about £36 billion per year for the period 2001-2005, which is only fifteen per cent higher than the corresponding estimate based on BHPS. The more reliable WAS estimate imply an average annual flow of inheritance of around £35 billion for each year during the period 2006-2010. For the same period the HMRC statistics imply an average annual flow of non-spousal inheritances of around £37 billion (in nominal terms excluding expenses and inheritance tax) which is only 6 per cent higher than the WAS estimates.

5. The distribution of inherited wealth

The first step in understanding the impact of inheritance on wealth inequality is to examine the degree of inequality in inheritances. Likewise to understand the extent to which the impact of inheritance on wealth inequality has changed over time we need to consider how inequality in inheritance has changed over time. Table 5 presents various summary statistics characterising the distribution of inheritances based on AIS, BHPS, WAS and GHS. The first two columns of this table present statistics for the distribution of inheritance of any financial value based on AIS and BHPS, the third column the distribution of inheritances of more than £1,000 based on data from WAS, while the last two columns present statistics for the distribution of inheritances that exceed the £2,000 threshold based on comparable data from GHS and BHPS which cover respectively the periods 1986-1995 and 1996-2005. In all surveys we restrict our sample to respondents who provide information on whether they have received an inheritance. For BHPS we select our sample among all wave 16 respondents who were observed in all ten waves prior their wave 16 interview (and therefore have complete inheritance history during the 10 years window 1996-2005). This restriction, by definition, excludes all respondents younger than 25 years old in their wave 16 interview.[17] For comparability we applied the same age restriction to all surveys.

Overall, according to the statistics in Table 4, 43.9 per cent of AIS respondents had received an inheritance during their lifetime (and up to the survey year), while the mean and median value of their inheritances were about £42,200 and £9,400 respectively. By comparison the BHPS data suggest that during the ten years period 1996-2005 about 19.5 per cent of BHPS respondents had received an inheritance while the mean and median values of their inheritance were £35,000 and £7,600 respectively. Restricting the sample of inheritors to those who had received larger inheritances reduces the percentage of inheritors to about 12.5

[17] This is due to the fact that BHPS interviews adults when they reach the age of 16. Overall around 80 per cent of wave 16 respondents over the age of 25 were observed in all ten waves (waves 7-16).

per cent and increases the mean and the median value of their inheritance to £47,800 and £16,800 respectively. In GHS, which includes comparable data on larger inheritances for the preceding ten year time period (1985-1995), the percentage of inheritors was about 8.4 per cent while the mean and median value of their inheritances was £35,100 and £16,000 respectively. The large difference in the mean and median value of inheritance in all surveys immediately suggests that the distribution of inheritance is characterised by a high degree of inequality.

This finding is confirmed by all inequality measures across all surveys. Despite the differences in the survey design, the sampling frame and the methods used to collect inheritance data, all surveys show very similar levels of inheritance inequality. In AIS, which includes retrospective data on all inheritances, the Gini coefficient among inheritors is 0.75 while in BHPS and WAS it is around 0.74. In considering the WAS estimates it is important to bear in mind that WAS excludes inheritances of less than £1,000. While the exclusion of small inheritances tends to underestimate inheritance inequality, one can argue that the estimates are not substantially different (the two BHPS estimates with and without the £2,000 bottom coding can provide an indication of the degree of the bias). Among all respondents, the AIS data give a Gini coefficient of 0.90 while BHPS of 0.96. By comparison, the Gini coefficient of household net worth in 2005 according to the BHPS was 0.59 while according to WAS household net worth inequality in 2006-2008 was around 0.61.[18] [19]

The estimated levels of concentration of inheritances are also remarkably similar across surveys. In BHPS the share of inheritances received by the top 1, 5 and 10 per cent of inheritors is 14, 40 and 58 per cent respectively, while in WAS the respective estimates are 18, 41 and 58 per cent (note the larger degree of concentration at the top 1 per cent which

[18] Total household net worth in BHPS includes net financial assets and net housing assets of the household. In WAS household wealth also includes physical wealth and private pensions assets.

[19] Aggregating inheritance at household level reduces the degree of inequality in inheritance but still this remains substantially larger than that of wealth.

reflects the better coverage of the upper tail of the distribution). Again the degree of concentration of inheritance is substantially larger than that estimated for wealth. In WAS the shares of wealth held by the top 1, 5 and 10 per cent of households are 13, 30 and 44 per cent respectively. The respective wealth shares estimates in BHPS are 8, 25 and 39 per cent respectively (but using a narrower definition of wealth than WAS).

In addition to the main features characterising the distribution of inheritances, the results in Table 5 reveal two contrasting trends concerning the change in the distribution of larger inheritances over time. On the one hand, all measures suggest that over the two time periods covered by the BHPS and the GHS there was an increase in inequality of larger inheritances (i.e. those valued more than £2,000) *among inheritors.* As shown by the percentiles ratios presented at the bottom of Table 5 (which represent measures of dispersion for the bottom and the upper tail of the distribution), the increase in inequality of larger inheritances, reflects the substantial increase in the dispersion of inheritances in the upper tail of the distribution. On the other hand, however, over the same period there was a decrease in inequality in inheritance among *all respondents,* itself arising from the increase in the proportion of the population that received an inheritance.[20] Comparing the percentiles of the two distributions one can see, that the increase in the proportion of the population that received an inheritance reflected a rise in the share of the population that received larger inheritances (note that the percentiles of the distributions are similar up to the median while above the median the BHPS estimates are higher than the GHS ones).

To sum up, the evidence presented in this section suggests that the distribution of inheritance is characterised by a high degree of inequality. The increase in the value of inheritance over the period 1986-1995 and 1996-2005 was accompanied by an increase in the inequality in the distribution of larger inheritance amongst their recipients from the already

[20] One factor that may affect the conclusions concerning the changing distribution of inherited wealth is that recall error bias may affect smaller inheritances more seriously than larger ones.

high levels. However, this increase was counterbalanced by the rise in the proportion of the population who had received larger inheritances. The net effect of both trends was a small decrease in the degree of inequality in the distribution of larger inheritances (over the £2,000 threshold) across the population as a whole.

6. The correlation between inheritance and socio-economic status

The next step to understand the distributional impact of inheritances is to examine the association between inheritance and socio-economic status.[21]

Table 5 shows the percentage of individuals in AIS and BHPS who had received inheritances and the mean and the median value of their inheritances by age, education, income, homeownership status and financial wealth level. The sample in this table is selected applying the same selection criteria as in the previous section. Recall that in AIS the statistics refer to all inheritances received by respondents by the time of their survey while in BHPS the statistics refer to all inheritance received by respondents by their wave 16 interview. All characteristics in the table are defined in terms of the respondents' characteristics at the time of the survey. Clearly this raises some endogeneity concerns for homeownership status and financial wealth (given that homeownership and financial wealth level in the interview year may be the result of a previous inheritance).

As expected, both surveys suggest that the probability of having inherited rises with age. In AIS which covers lifetime receipts the percentage of inheritors rises from about 36 per cent for individuals under the age of 35, to about 49 per cent for those between 55 and 74 years old and then decreases for the oldest age group (to 37 per cent). The mean and the median value of accumulated inheritances follow a similar age pattern: they tend to rise with age up to the

[21] Previous studies which look at the association between inheritance and socio-economic status include Rowlingson (2005), Holmans and Frosztega (1994), Hamnett (1991), Hamnett et al., (1991), Lloyd (2008), and Ross et al. (2008). We extend these studies by providing a more thorough analysis of the distribution of inheritance across groups and its changes over time.

age of 74 and then decrease for people older than 75 years old. This pattern reflects both life-cycle effects (i.e. reflecting the increase in the probability of losing a parent with age) as well as cohort differences in inheritance patterns (reflecting the fact that parental wealth would tend to be lower for older cohorts). But to some extent, it would also reflect recall error bias for inheritance received in the distant past. The degree of the bias would probably increase with age given that there would normally be more time elapsed between the event of inheritance receipt and the interview time. Given the substantial asset price growth since the 1970s the age patterns of inheritance receipts may also reflect some important time effects. Ideally, one would like to disentangle each of these effects. Although, in principle, one could exploit the retrospective data from AIS to examine the cumulative inheritance receipts of different cohorts of people as they age, recall error bias poses significant constraints in our ability to draw any strong conclusions about cohort differences in inheritance receipts (such an analysis is further constrained by the relatively small sample size of AIS – of around 2,000 respondents). We therefore we do not pursue this analysis here.

Reflecting the shorter time span of the inheritance data in BHPS, the probability of having received an inheritance is much smaller than in AIS for all age groups. Both the probability and the value of inheritance increases with age, peaking for the 55-64 age group and then decreasing for older age groups. Given the narrower time window of the inheritance data in BHPS (ten years) the estimated age pattern in BHPS can be taken to reflect more closely, the age profiles of inheritance receipt. In other words the peak in the probability of receiving an inheritance at the 55-64 age group (27 per cent) can be seen as corresponding to the age group most people tend to receive their inheritances. Although recall error bias is much less of a concern in BHPS, the estimated profiles again confound ageing and cohort effects (since they are effectively cross-sectional) and to some extent period effects (since inheritance receipts are aggregated over a ten-year period). Unfortunately, the narrow time

window of the inheritance data in BHPS (ten years) and the small number of people that inherit in each wave (around 2 per cent of the sample) inhibits any analysis to disentangle age and cohort differences in inheritance patterns.

Having explored the age patterns in inheritance receipt, we now turn to assess differences in inheritance by income, education and financial wealth level. Despite some generic differences in the rate and the value of inheritance (which largely reflect differences in the time framework of the inheritance data covered by each survey) both surveys suggest a clear social gradient in the probability of having received an inheritance. In AIS the probability of inheriting rises from 32 per cent for people with no educational qualifications to about 58 per cent for people with degrees and from about 31 per cent for people in the lowest financial wealth class to about 66 per cent for people in highest financial wealth class; in the last ten year period covered by BHPS the probability of inheriting rises from about 11 per cent for people with no educational qualifications to about 29 per cent among those with degrees and from about 12 per cent for people in the lowest financial wealth group to 31 per cent among those in the highest financial wealth group. The probability of inheriting is also considerably higher amongst homeowners than non-homeowners (with a differential of about 20 percentage points in AIS and 11 percentage points in BHPS) and among higher income groups (although the relationship with income in both surveys is not as pronounced as in terms of the other characteristics). As we discussed earlier, the interpretation of the results for financial wealth and homeownership is rather ambiguous since financial wealth and homeownership can be endogenous to inheritance.

The patterns in terms of the value of inheritances are similar. Mean receipts are almost two times higher for those with degrees than for those with no qualifications but overall the relationship is not very strong. Probably, this reflects variation in qualification levels by age cohort and it is something that we explore further in the multivariate analysis which follows.

Generally, receipts also tend to rise with income level. This is more pronounced for mean receipts, affected by the distribution of the largest inheritances. The value of inheritance also increases strongly with financial wealth (again reflecting the possible endogeneity of inheritance in wealth). In both AIS and BHPS the mean value of inheritance for the highest financial wealth groups was more than 5 times as high as for the lowest and the median was around 6 (BHPS) and 13 (AIS) times as large. Mean receipts are also much higher for homeowners than for tenants in both surveys.

Before moving to examine the patterns of inheritance in more detail, a general observation that one can make from Table 5, is that within each group the average value of inheritance is several times larger than the median, reflecting the skewness of the underlying distribution. It is also noteworthy that although more advantaged socio-economic groups inherited more (both in terms of the probability and the value of inheritance), the absolute differences in the mean value of receipts were rather moderate – less than £30,000 in most cases (except from the much higher value of the highest financial wealth group which is highly endogenous to inheritance) and less than £7,000 when we look at differences in the median value of inheritance. It is difficult to conceive that a difference of this or similar magnitude could result in any pronounced change in wealth inequality and/or social polarisation. Unarguably however, the pattern amplifies the absolute differences in resources across different socio-economic groups.

Because the differences in the average probability and value of inheritance across individuals grouped by income, education, and wealth levels could be the result of differences in observable characteristics (especially when one considers the lifecycle aspects of inheritance receipt), it is necessary to analyse inheritance in a multivariate setting. To that end we estimate two types of models. The first is a simple probit regression predicting the probability of having received an inheritance while the second is an OLS regression

explaining the logarithm of inheritance. Equations (1) and (2) describe the probit and OLS regressions respectively:

$$I^* = X_i\beta_i + \varepsilon_i \qquad \begin{array}{l} I_i = 1 \text{ if } I_i^* = 0 \\ I_i = 0 \text{ otherwise} \end{array} \tag{1}$$

$$IW_i = X_i\beta_i + \varepsilon_i \tag{2}$$

In equation (1) I indicates whether the respondent had received an inheritance, I* is the latent index determining whether the inheritance indicator (I) takes the value of zero or one, X is a vector of individual characteristics affecting the probability of having received an inheritance, β is a vector of parameters and ε is an error term which we assume to follow a standard normal distribution. Equivalently in equation (2) IW is the log value of inheritance, X is a vector of individual characteristics, β is a vector of parameters and ε is an error term.

For each of these two models we estimate three specifications. The baseline specification includes controls for respondents' age, educational attainment, and gross household income; the second specification adds controls for financial wealth and home ownership status; while the final specification excludes financial wealth and homeownership status and adds dummies for parental background (five dummies indicating respondent's father's socio-economic class when the respondent was 14 years old). The first and second specifications are estimated using both data sets, while the third uses only data from BHPS (since parental socio-economic status is only available in BHPS). Table 6 and 7 reports the results from the probit and OLS models respectively. Because interpretation of the estimated coefficients from the probit model is not straightforward, in Table 6 we report marginal effects rather than the probit coefficients themselves.

Similarly to the descriptive analysis, the estimates from the probit equations suggest a pronounced age profile in inheritance receipt (with BHPS suggesting a peak for the 55-64 age group and AIS at 65-74) and significant differences across the various socio-economic groups

in the probability of receiving an inheritance. Again, the main limitation of the estimated age patterns is that they confound age and cohort effects. Although the estimated associations in terms of all other characteristics are somewhat weaker than those suggested by the descriptive analysis, they still seem to be of considerable size. The positive effect of education and the fact that this remains strong in all specifications including those which introduce controls for parental socio-economic class (which can be seen as a proxy of parental wealth) is particularly noticeable. It suggests that parents who invest in their children's education are also more likely to bequeath wealth to their children. It is noteworthy that once other factors are controlled for, there is little independent association between the probability of inheriting and income level.

In line with the results from the descriptive analysis, the OLS estimates in Table 7 suggest that the size of inheritance rises with socio-economic status. But in contrast to results from the probability models, the estimated associations are considerably weaker than the bivariate ones. The main exception is education which seems to retain most of its predictive power. Predicted lifetime receipts (AIS) are highest for those over 65 and receipts within the last ten years (BHPS) highest for those 55-64. Again, once other factors are allowed for, income does not seem to have a significant association with inheritance but there is a strong relationship between those with different wealth levels, with predicted average receipts being particularly high for those with financial wealth over £50,000. Home-ownership has an independent positive effect in BHPS, but the difference is not significant in AIS once other factors are controlled for. Finally, in BHPS the estimated effects imply a strong association between inheritance receipts and paternal socio-economic class.

Given the trends in the rate and the value of inheritance that we documented earlier it seems important to consider whether the increases in the value of inheritance over time have strengthened or weakened the association between inheritance and socio-economic status. To

address this question we pool data from GHS and BHPS (which include comparable data on larger inheritance for the time periods 1986-1995 and 1996-2005 respectively) and we estimate equations (1) and (2) with the addition of a set of interaction terms between a 1996-2005 time period dummy and various socio-economic status indicators. For each equation we estimate two specifications. The first includes age and education dummies along with a set of interaction terms between education and our time period dummy. The second adds controls for homeownership status and its interaction with time. The coefficient on the interaction terms from these models will capture the extent to which there has been a differential growth in the probability and the value of inheritance across groups over time.[22]

Considering first the probability model (left hand side of Table 8), we note that the estimates on the interaction terms between respondents' education and the period dummy are all positive suggesting that during the period under examination the probability of receiving an inheritance increased more for the three higher educational groups than for the lowest one. The marginal effects estimates suggest that the differential in inheritance probability between people with no qualifications and those with O-levels qualifications increased by about 5 percentage points while the differential with the higher two education groups by about 2 percentage points. However, only the 5 percentage point differential between the lower and second lower educational group is significant. The marginal effect on the homeownership interaction dummy in the second specification is negative but insignificant suggesting that the difference in the probability of inheriting has not changed in any significant way for homeowner and non-homeowners. Similarly, the OLS estimates on the period-education interaction terms are all positive implying that the disparities in the value of inheritance between people with no qualifications and those with higher educational qualifications have

[22] One important issue of consideration is whether the estimates on the interaction terms are contaminated by measurement error in the dependent variables especially given the retrospective nature of the GHS data. Assuming that measurement error is random the estimates on the interaction terms will still be unbiased but their standard errors will be higher.

increased over time. However, only the estimate on the interaction term for the highest educational group is significant.

All in all the results of this section suggest that inheritance is positively associated with socio-economic status. This association is stronger in terms of the probability than in terms of the value of inheritance especially once we control for differences in observed characteristics. The across-time comparisons based on GHS and BHPS data provide some suggestive evidence that the increase in the value of inheritance observed from the mid-1990s onwards benefited more the middle and higher socio-economic groups. This contrasts to popular assumptions that the increase in housing inheritance will have some equalising effects. However, it is in line with the conclusion of Hamnett (1991) who suggested that although housing inheritance will become more widespread this will mainly benefit mid and higher socio-economic groups while lowest socio-economic groups will be generally excluded from housing inheritance.

7. Conclusions

In this paper we used HMRC published estate statistics and data from four micro surveys to document and analyse changes in the size and the distribution of inheritance during the period 1984-2010. According to data from the estate statistics, inheritance rose from £22.2 billion in 1984/85 to £55.4 billion by 2009/10 (with the most substantial increase observed after 2000). This took the flow of inheritance from being the equivalent of 3.1 per cent of GDP in 1984/85 to about 4.5 per cent in 2009/10. This increase was largely driven by the increase in house prices and to a much lesser extent by the increase in the number of housing estates. The latter finding contrasts to the trends observed in earlier periods and seems to suggest that the spread in owner occupation that has occurred since the 1940s has slowly started to feed into inheritance.

As one would expect, we find that the distribution of inheritances is characterized by high degree of inequality. Over time comparisons based on data from the GHS and BHPS, which cover the time periods 1986-1995 and 1996-2005 respectively, suggest that the distribution of larger inheritances (i.e. those valued more than £2,000) has become more unequal over time. Overall, however, the inequality-increasing effect from the greater dispersion of inheritances (among inheritors) was counterbalanced by the increase in the percentage of the population who received larger inheritances, resulting in a slight decrease in the degree of inequality in the distribution of inheritance across the population as a whole.

Analysis of the distribution of inheritance by socio-economic status suggested that there is a positive association between inheritance and socio-economic status, with some suggestive evidence that this association might have strengthened over time. Within each group however, we find evidence of a considerable heterogeneity in the population of inheritors and a large variation in the value of inheritance among them (with a few large inheritances and a large number of smaller ones). Overall, however, most inheritances are rather small and the differences in the value of inheritance across groups rather moderate. Unarguably however, the estimated patterns appear to amplify the absolute differences in resources across different socio-economic groups. If inheritance continues to grow (as suggested by the recent study of Hood and Joyce (2013) who examined people's expectations of receiving an inheritance) its social and economic impacts may become even more pronounced.

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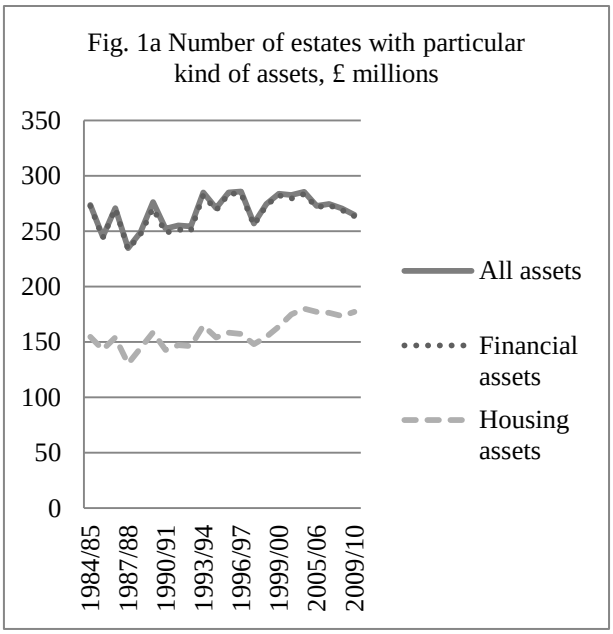
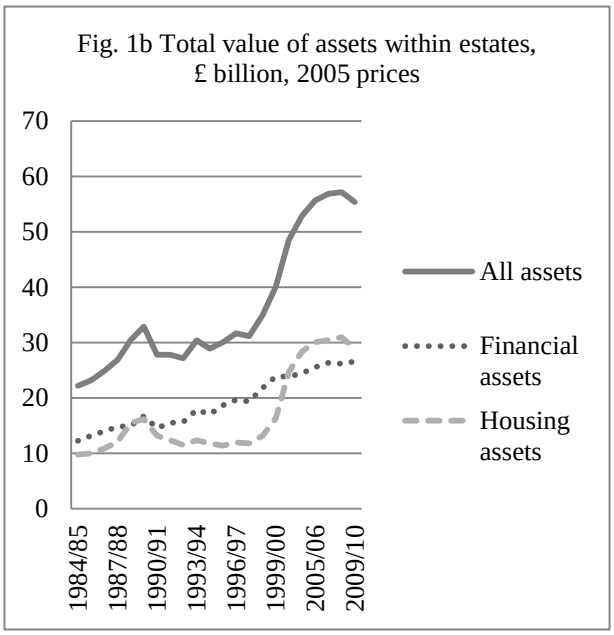
Table 1: Statistics on estates passing on death by year of death, United Kingdom, all estates and by type of asset

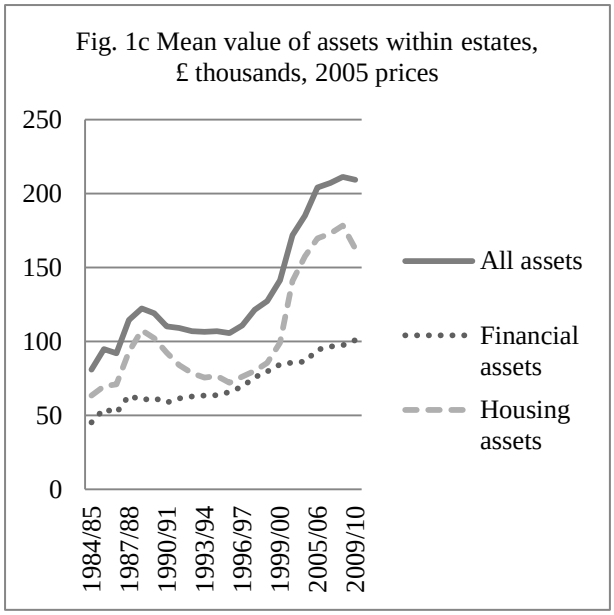
Year	Number of estates with particular kind of assets *(thousands)*			Total value of assets *(billion £, 2005 prices)*			Mean value of assets *(thousand £, 2005 prices)*		
	Financial assets	Housing assets	All assets	Financial assets	Housing assets	All assets	Financial assets	Housing assets	All assets
1984/85	272.9	154.6	273.8	12.3	9.8	22.2	45.3	63.5	81.0
1985/86	244.1	143.2	245.1	13.2	10.0	23.2	54.2	69.7	94.7
1986/87	270.5	154.1	270.9	14.0	10.9	24.9	51.7	71.0	92.0
1987/88	233.7	130.4	234.7	14.8	12.1	26.9	63.3	93.0	114.6
1988/89	247.6	144.5	249.2	15.0	15.5	30.5	60.4	107.5	122.3
1989/90	270.9	158.7	276.4	16.7	16.2	32.9	61.6	102.1	119.0
1990/91	248.8	142.8	252.4	14.6	13.2	27.8	58.6	92.5	110.1
1991/92	251.6	147.3	255.2	15.5	12.4	27.8	61.5	83.9	109.1
1992/93	250.6	146.3	254.4	15.7	11.5	27.2	62.8	78.6	107.0
1993/94	282.7	164.8	285.1	17.9	12.4	30.4	63.5	75.5	106.6
1994/95	268.9	154.2	270.9	17.1	11.8	28.9	63.7	76.7	106.9
1995/96	284.0	158.5	285.1	18.7	11.4	30.1	65.8	72.1	105.6
1996/97	284.3	157.2	285.9	19.7	12.0	31.7	69.4	76.2	110.9
1997/98	255.7	148.2	256.9	19.4	11.8	31.2	75.8	80.0	121.5
1998/99	273.5	154.6	274.8	21.8	13.2	35.0	79.6	85.5	127.3
1999/00	282.4	164.1	283.8	23.9	16.3	40.1	84.5	99.1	141.4
2002/03	279.7	175.1	282.7	23.9	24.7	48.6	85.6	140.9	172.0
2003/04	283.5	180.3	285.7	24.5	28.4	52.9	86.4	157.6	185.2
2005/06	271.8	177.3	273.0	25.6	30.1	55.7	94.3	169.7	204.1
2006/07	273.6	176.4	274.7	26.4	30.5	56.9	96.6	173.0	207.3
2007/08	269.2	173.6	270.6	26.2	31.0	57.2	97.4	178.3	211.2
2009/10	263.6	177.2	264.9	26.6	28.9	55.4	100.9	162.8	209.3

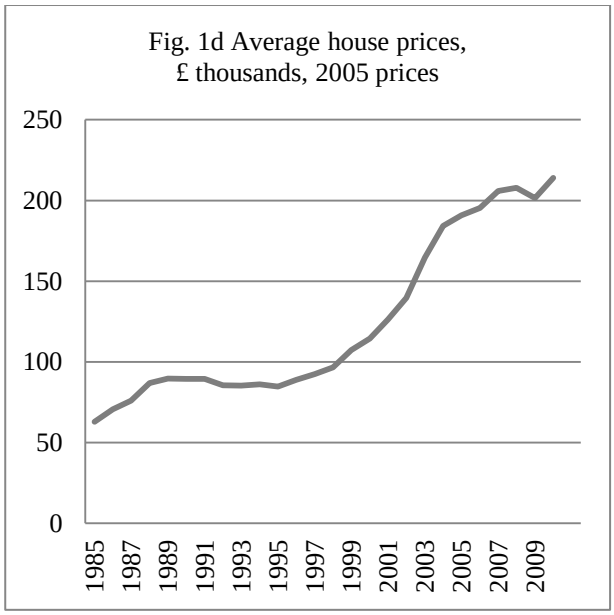
Notes: The statistics presented in these figures are based on all estates passing on death including inter-spousal transfers. The mean value of assets reported in Figure 1.c. is computed dividing the total value of each particular kind of asset with the number of estates which includes this particular kind of asset. Source: Own analysis based on HMRC Inheritance Tax Statistics (for earlier years the source is Inland Revenue Statistics, various years, London: HMSO and for more recent years is online from HMRC website http://www.hmrc.gov.uk/statistics/inheritance.htm#5).

Figure 1: Statistics on estates passing on death 1984/85-2005/06









Note: The statistics presented in these figures are based on all estates passing on death including inter-spousal transfers. The mean value of assets reported in Figure 1.c. is computed dividing the total value of each particular kind of asset with the number of estates which includes this particular kind of asset. Source: Own analysis based on HMRC Inheritance Tax Statistics (for earlier years the source is Inland Revenue Statistics, various years, London: HMSO and for more recent years is online from HMRC website http://www.hmrc.gov.uk/statistics/inheritance.htm#5). The source for the house prices statistics is Table 502 Housing market: House prices since 1930, UK (accessed from Communities and Local Government website: http://www.communities.gov.uk/documents/housing/xls/141272.xls).

Table 2: Total value of estates excluding inter-spousal transfers by year of death, United Kingdom

Year	**Total value of estates excluding inter-spousal transfers** *(billion £, 2005 prices)*
1986/87	18.3
1987/88	19.0
1988/89	21.7
1989/90	23.2
1990/91	19.8
1991/92	20.1
1992/93	19.4
1993/94	22.0
1994/95	20.9
1995/96	
1996/97	22.8
1997/98	22.5
1998/99	25.2
1999/00	28.8
2000/01	
2001/02	
2002/03	34.7
2003/04	39.6
2004/05	
2005/06	40.7
2006/07	41.5
2007/08	41.1
2008/09	
2009/10	38.6

Notes: Statistics are based on all estates passing on death excluding the estimated 'inter-spousal transfers (see text for details). Source: Own analysis based on HMRC Inheritance Tax Statistics (for earlier years the source is Inland Revenue Statistics, various years, London: HMSO and for more recent years is online from HMRC website http://www.hmrc.gov.uk/statistics/inheritance.htm#5).

Table 3: Per cent of the adult population that inherit in each year and the mean value of inheritance, 1986-2005 (excluding inter-spousal inheritance)

	All inheritance greater than £2,000 in constant 2005 prices		All inheritances above £1,000 (in current prices)	All inheritances	
	GHS	BHPS	WAS	AIS	BHPS
Per cent of the adult population that inherit in each year (%)					
1986-1990	0.8				
1991-1995	1.2			1.9	
1996-2000		1.4		2.2	2.5
2001-2005 (2001-2004 for AIS)		1.4		2.2	2.4
2006-2010			1.8		
Mean value of inheritance (£ in 2005 prices)					
1986-1990	34,100				
1991-1995	27,200			18,500	
1996-2000		31,300		28,500	20,900
2001-2005 (2001-2004 for AIS)		38,200		34,200	27,500
2006-2010			41,700		

Notes: Figures in AIS and GHS have been adjusted to account for the potential bias which may arise from the fact that some of the inheritors may have died between the time of receipt of inheritance and the interview. All figures are rounded to the nearest £100. The value of inheritances in earlier years is converted to 2005 prices, using the Retail Price Index. In WAS the value of inheritance could be deflated because the survey does not record information about the year at which inheritance was received. Source: Own analysis using the 1995/96 General Household Survey, the Attitudes to Inheritances Survey, the British Household Panel Survey (waves 7-16) and the Wealth and Asset Survey (waves 1 and 2).

Table 4: Statistics describing the distribution of inheritances in the UK for individuals (2005 prices and current prices for WAS)

	All inheritances		All inheritances above £1,000 (in nominal terms)	All inheritance above £2000 (in 2005 prices)	
	AIS	BHPS	WAS	GHS	BHPS
	All inheritances received during respondents' lifetime	All inheritances received during 1995-2005	All inheritances received in any two year period between 2006-2010	All inheritances received during 1985-1995	All inheritances received during 1995-2005
All respondents					
% of inheritors	43.9	19.5		8.4	12.5
P25	0	0		0	0
P50	0	0		0	0
P75	4,100	0		0	0
P90	37,400	5,300		0	5,300
P95	87,000	28,700		11,300	28,700
P99	311,000	148,000		76,200	148,000
Mean	16,500	6,100		3,000	6,100
Gini	0.90	0.96		0.97	0.96
Inheritors					
P25	2,300	1,900	2,900	6,000	5,800
P50	9,400	7,600	9,500	16,000	16,800
P75	38,000	36,100	40,000	41,900	52,900
P90	107,400	98,900	110,000	85,800	125,000
P95	209,200	156,300	164,000	116,100	191,700
P99	441,700	353,900	350,000	234,000	431,900
Mean	42,100	35,000	41,700	35,100	47,800
Gini	0.75	0.74	0.74	0.62	0.66
P10/P50	0.07	0.08	0.11	0.18	0.19
P90/P50	11.38	13.03	11.60	5.32	7.43
Share of total					
Top 1%	12	14	18	11	12
Top 5%	42	40	41	29	34
Top 10%	62	58	58	44	50

Notes: Note that the mean value of inheritance implied by the percent of inheritors and the mean value of their inheritance is not identical to the mean value of inheritance among all respondents. This is because the value of inheritance is missing for around 2 per cent of inheritors. Given the differential degree of accuracy over the top of the distribution and in order to increase comparability, for the analysis in this table we exclude three outlier observations in GHS with inheritance exceeding £1,000,000.

Table 5: The percentage of individuals who received inheritances of any financial value and mean and median value of inheritance by various characteristics (excluding inter-spousal inheritances)

	% inheriting		Mean value of inheritance		Median value of inheritance	
	AIS	BHPS	AIS	BHPS	AIS	BHPS
All adults aged over 25	43.9	19.5	42,100	35,000	9,400	7,600
Age group						
25-34	35.6	16.2	13,500	12,300	3,100	2,300
35-44	41.8	19.1	22,800	28,200	4,100	5,100
45-54	47.5	21.3	56,700	39,800	11,700	11,200
55-64	49.3	26.9	52,300	44,200	15,400	13,000
65-74	48.9	19.8	52,200	42,200	18,600	10,800
75 +	36.4	8.3	45,700	36,100	16,000	5,600
Education						
None	32.0	10.7	23,700	26,400	7,100	5,300
GCSE O level or lower	42.4	19.0	39,300	41,500	7,700	9,800
Higher qualification-A level	51.4	21.2	53,100	30,200	11,200	7,100
Degree or equivalent	58.2	29.3	52,600	44,700	15,200	10,900
Weekly gross household income						
£0-199	38.4	16.4	35,200	27,100	6,000	5,400
£200-399	49.8	16.3	36,600	36,400	10,500	7,600
£400-999	51.6	20.3	46,600	33,900	9,400	7,500
>£1000	47.0	24.9	52,900	40,100	13,700	9,900
Home ownership status						
Non home owners	29.3	10.9	30,700	18,100	3,800	4,400
Home owners	48.9	21.9	44,500	37,500	10,900	8,800
Gross financial wealth level (£)						
Wealth is missing	39.4	15.0	32,700	22,600	8,300	3,500
0-999	30.8	11.7	22,700	12,800	3,400	4,000
1,000-4,999	41.5	16.5	18,800	25,200	6,700	4,700
5,000-9,999	44.8	20.4	17,000	17,200	6,700	4,800
10,000-49,999	52.1	22.9	44,600	40,900	15,200	10,600
50,000-99,999	66.9	28.7	60,000	51,400	25,500	27,300
More than 100,000	65.8	31.2	121,600	65,800	43,300	22,400
N who received inheritances	798	1,098				
N	1,820	5,637				

Notes: Since some respondents have received more than one inheritance during this period the percentage of inheritors is less than the one implied by the annual inheritance rate. *Source:* Own analysis of data from the BHPS (waves7-16) and the AIS (2004).

Table 6: Probit marginal effects of the association between socio-economic status and the probability of inheriting

	AIS		BHPS		
Age group *ref. 25-34*					
35-44	0.08 **	0.05	0.03 *	0.01	0.03
	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)
45-54	0.17 ***	0.12 ***	0.07 ***	0.02	0.06 ***
	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)
55-64	0.22 ***	0.13 ***	0.15 ***	0.07 ***	0.15 ***
	(0.04)	(0.05)	(0.02)	(0.02)	(0.03)
65-74	0.26 ***	0.15 ***	0.11 ***	0.02	0.11 ***
	(0.04)	(0.05)	(0.03)	(0.03)	(0.03)
Education *ref. None*					
GCSE O level or lower	0.13 ***	0.09 **	0.11 ***	0.08 ***	0.10 ***
	(0.03)	(0.04)	(0.03)	(0.02)	(0.03)
At least one A level	0.23 ***	0.17 ***	0.13 ***	0.09 ***	0.11 ***
	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)
Degree or equivalent	0.30 ***	0.25 ***	0.23 ***	0.17 ***	0.18 ***
	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)
Household income *ref.£0-299*					
£300-499	0.03	-0.03	-0.03	-0.04 *	-0.03
	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)
£500-999	0.09 **	-0.01	-0.01	-0.04 *	-0.01
	(0.04)	(0.05)	(0.02)	(0.02)	(0.02)
>£1000	-0.02	-0.16 ***	0.01	-0.04 *	0.00
	(0.05)	(0.05)	(0.03)	(0.02)	(0.03)
Homeownership status					
Homeowners		0.10 ***		0.07 ***	
		(0.03)		(0.01)	
Gross financial wealth, *ref. <£1000*					
1,000-4,999		0.08 *		0.05 **	
		(0.05)		(0.02)	
5,000-9,999		0.06		0.08 ***	
		(0.05)		(0.03)	
10,000-49,999		0.11 **		0.11 ***	
		(0.04)		(0.02)	
50,000-99,999		0.23 ***		0.15 ***	
		(0.06)		(0.03)	
More than 100,000		0.22 ***		0.19 ***	
		(0.06)		(0.03)	
Father's s.e. class *ref. Prof.*					
Inter. -skilled non-manual					-0.07 ***
					(0.02)
Skilled manual					-0.10 ***
					(0.02)
Partly skilled or unskilled					-0.16 ***
					(0.02)
Number of Obs.	1623	1623	4955	4955	4955
Pseudo R-squared	0.046	0.062	0.026	0.045	0.038
Log-likelihood	-1063.9	-1046.9	-2479.1	-2430.2	-2450.3

Notes: The sample includes all respondents aged 25-74 years old. Standard errors are reported in parentheses. *** indicates coefficient statistically significant at the 1% level, ** at the 5% level and * at the 10% level. Source: Own analysis of data from the BHPS (waves7-16) and the AIS (2004).

Table 7: OLS estimates of the association between the value of inheritance and socio-economic status

	AIS		BHPS		
Age group *ref. 25-34*					
35-44	0.32	0.17	0.48 **	0.34	0.49 **
	(0.24)	(0.24)	(0.22)	(0.22)	(0.24)
45-54	1.30 ***	0.98 ***	1.14 ***	0.83 ***	1.15 ***
	(0.24)	(0.25)	(0.22)	(0.22)	(0.24)
55-64	1.60 ***	1.15 ***	1.53 ***	1.10 ***	1.56 ***
	(0.25)	(0.27)	(0.22)	(0.23)	(0.25)
65-74	2.04 ***	1.43 ***	1.38 ***	0.73 ***	1.41 ***
	(0.26)	(0.29)	(0.27)	(0.28)	(0.28)
Education *ref. None*					
GCSE O level or lower	0.48 **	0.27	0.57 **	0.42	0.54 **
	(0.22)	(0.22)	(0.27)	(0.27)	(0.27)
At least one A level	0.84 ***	0.57 **	0.36	0.14	0.30
	(0.24)	(0.25)	(0.25)	(0.25)	(0.26)
Degree or equivalent	0.95 ***	0.62 **	0.85 ***	0.51 *	0.73 **
	(0.24)	(0.25)	(0.27)	(0.27)	(0.29)
Household income *ref.£0-299*					
£300-499	0.58 **	0.40 *	0.33	0.27	0.35
	(0.23)	(0.24)	(0.28)	(0.28)	(0.28)
£500-999	0.65 ***	0.37	0.29	0.12	0.31
	(0.23)	(0.24)	(0.26)	(0.26)	(0.26)
>£1000	0.76 **	0.23	0.49 *	0.19	0.49 *
	(0.30)	(0.32)	(0.29)	(0.29)	(0.29)
Homeownership status					
Homeowners		0.11		0.34 *	
		(0.20)		(0.20)	
Gross financial wealth, *ref. <£1000*					
1,000-4,999		0.02		0.19	
		(0.25)		(0.23)	
5,000-9,999		0.16		0.27	
		(0.26)		(0.24)	
10,000-49,999		0.51 **		0.65 ***	
		(0.24)		(0.20)	
50,000-99,999		0.76 **		1.10 ***	
		(0.30)		(0.24)	
More than 100,000		1.38 ***		1.26 ***	
		(0.32)		(0.26)	
Father's s.e. class *ref. Prof.*					
Inter. -skilled non-manual					-0.45 *
					(0.24)
Skilled manual					-0.52 **
					(0.25)
Partly skilled or unskilled					-0.55 **
					(0.23)
Constant	6.90 ***	7.21 ***	7.17 ***	7.01 ***	7.65 ***
	(0.29)	(0.31)	(0.35)	(0.37)	(0.42)
Number of Obs.	597	597	924	924	924
Adjusted R-squared	0.153	0.179	0.073	0.111	0.075

Notes: The sample includes all respondents aged 25-74 years old. Standard errors are reported in parentheses.*** indicates coefficient statistically significant at the 1% level, ** at the 5% level and * at the 10% level. Source: Own analysis of data from the BHPS (waves7-16) and the AIS (2004).

Table 8: Probit marginal effects and OLS estimates of the change in the association between socio-economic status and inheritance: Probit and OLS interaction models

	Probit model		***OLS***	
Education *ref. None*				
Main effects				
GCSE o level or lower	0.05 ***	0.04 ***	0.16	0.16
	(0.01)	(0.01)	(0.11)	(0.11)
At least one A level	0.09 ***	0.08 ***	0.24 **	0.21 *
	(0.01)	(0.01)	(0.12)	(0.12)
Degree or equivalent	0.16 ***	0.14 ***	0.43 ***	0.40 ***
	(0.02)	(0.02)	(0.12)	(0.12)
Interaction effects				
GCSE o level or lower*1996-2005	0.05 *	0.05 **	0.40	0.43
	(0.03)	(0.03)	(0.27)	(0.27)
At least one A level*1996-2005	0.02	0.02	0.33	0.34
	(0.02)	(0.02)	(0.26)	(0.26)
Degree or equivalent*1996-2005	0.02	0.02	0.64 **	0.66 **
	(0.02)	(0.02)	(0.27)	(0.27)
Homeownership status				
Main effects				
Homeowners		0.05 ***		0.36 ***
		(0.01)		(0.12)
Interaction effects				
Homeowners*1996-2005		-0.01		-0.01
		(0.01)		(0.20)
Number of Obs.	15,390	15,352	1,567	1,566
Pseudo/adjusted R- squared	0.053	0.059	0.046	0.053
Log-likelihood	-4796.0	-4758.6		

Notes: The analysis in this table includes people aged 25-74 years old. Standard errors are reported in parentheses. *** indicates coefficient statistically significant at the 1% level, ** at the 5% level and * at the 10% level. *Source:* Own analysis of pooled data from the BHPS (waves7-16) and the GHS (1995/96).